IN THE CLAIMS:

Please amend the claims as shown below.

1.   (Currently Amended) A method of presenting data from at least one data source, said method comprising the steps of:

(i)   ~~providing a representation of said at least one data source and a plurality of previous views~~ constructing a representation of said at least one data source;

(ii)   ~~identifying at least one compulsory entity in said representation;~~

(iii)   ~~determining at least one context entity from said representation and context data obtained from said plurality of previous views; and~~

(iv)   ~~presenting a data structure comprising said at least one compulsory entity and said at least one context entity~~

(ii)   obtaining at least one occurrence frequency of at least one data element from previous views of said at least one data source;

(iii)   identifying at least one compulsory entity in said representation;

(iv)   determining at least one context entity in said representation and in context data, wherein the determination is based on said at least one occurrence frequency;

(v)   presenting a data structure, wherein the data structure is a subset of the data from the data source, comprising a plurality of data elements, wherein each said data element corresponds to at least one of said at least one compulsory entity and said at least one context entity.

2.   (Previously Presented) A method according to claim 1 wherein at least one said data source is hierarchical and said data structure is hierarchical.

3.   (Cancelled)

4.   (Currently Amended) A method according to claim [[3]] 1 wherein said ~~graphical~~ representation comprises a schema representation of said at least one data source and at least one said previous view.

5.   (Currently Amended) A method according to claim 1 wherein said context data comprises data ~~evaluated to represent a measure of relevance of~~ ranked according to relevance of said context entities to said compulsory entity.

6.   (Currently Amended) A method according to claim 5 wherein said context data comprises at least one associated ~~numerical~~ data.

7.   (Currently Amended) A method according to claim 6 wherein said at least one associated ~~numerical~~ data comprises occurrence and joint-occurrence frequencies of entities in said representation observed in at least one said previous view.

8.   (Previously Presented) A method according to claim 2 wherein a root node of said at least one hierarchical data structure is an ancestor node of said at least one compulsory entity in said representation.

9.   (Previously Presented) A method according to claim 2 wherein said at least one hierarchical data structure is assigned a score equal to the occurrence probability of a root node given the occurrence of each of said at least one compulsory entity.

10.   (Previously Presented) A method according to claim 8 wherein said one or more context entities is selected from the group consisting of:

(a)   said root node;

(b)   a first set of nodes along at least one directed path in said representation from said root node to said at least one compulsory entity;

(c)   a second set of nodes selected from descendant nodes of said root node in said representation, each said node in said second set being selected based upon a corresponding occurrence probability, each said occurrence probability being derived from the occurrence of ancestors of said node up to and including said root node and said at least one compulsory entity;

(d)   a third set of nodes selected from descendant nodes of said root node in said representation based on a corresponding distance of said third set node from said root node in said representation; and

(e)   a fourth set of nodes selected from descendant nodes of said root node in said representation based on a corresponding distance of said fourth set node from said at least one compulsory entity in said representation.

11.   (Previously Presented) A method according to claim 10 wherein said second set of nodes comprises one or more child nodes of at least one parent node in said representation lying along said directed path from said root node to said at least one compulsory entity.

12.   (Currently Amended) A method according to claim 10 wherein said corresponding distances comprise a number of links separating the ~~subject~~ nodes in said representation.

13.   (Currently Amended) A method according to claim 11 wherein, step (iv)[[(iii)]] comprises selecting said one or more child nodes as context nodes from all child nodes of said at least one parent node, said selecting comprising the steps of:

(iv-a)~~(iii-a)~~   computing a first occurrence probability of said parent node appearing with none of its child nodes other than a fifth set of nodes, given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity, said fifth set comprising child nodes of said parent node lying along a directed path from said parent node to said at least one compulsory entity;

(iv-b)~~(iii-b)~~   computing a second occurrence probability of each child node in a sixth set of nodes, given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity, said sixth set comprising child nodes of said parent node that do not lie along a directed path from said parent node to said at least one compulsory entity;

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(iv-c)(iii-c)   computing a total sum of said first occurrence probability and said second occurrence probabilities;

(iv-d)(iii-d)   creating a fictitious node and assigning said fictitious node said first occurrence probability;

(iv-e)(iii-e)   selecting said fifth set of child nodes as context nodes;

(iv-f)(iii-f)   selecting as context nodes a seventh set of child nodes formed from said sixth set of child nodes and said fictitious node arranged in order of descending values of said first occurrence probability or said second occurrence probability, and for which the sum of said first occurrence probability or said second occurrence probabilities of said seventh set of child nodes equals or exceeds half of said total sum; and

(iv-g)(iii-g)   deselecting as a context node said fictitious node if said fictitious node is selected in said seventh set of child nodes,

wherein said first occurrence probability and said second occurrence probability are approximated using at least one occurrence frequency of a node in said representation, co-occurrence frequency between a pair of nodes in said representation, and joint-occurrence frequency between an n-tuple of nodes in said representation observed in at least one said previous view.

14.   (Previously Presented) A method according to claim 13 wherein said fictitious node prevents other nodes, whose associated probabilities are less than the probability associated with the fictitious node, from being selected, since nodes are selected as context nodes until their sum exceeds half of the total sum.

15.   (Currently Amended) A method according to claim 11 wherein, step (iv)[[(iii)]] comprises selecting said one or more child nodes as context nodes from all child nodes of said at least one parent node, said selecting comprising the steps of:

(iv-a)(iii-a)   computing a first occurrence probability of said parent node appearing with none of its child nodes other than a fifth set of nodes, given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity, said fifth set comprising child nodes of said parent node lying along a directed path from said parent node to said at least one compulsory entity;

(iv-b)(iii-b)   selecting said fifth set of child nodes as context nodes; and if said first occurrence probability is less than or equal to 0.5:

(iv-c)(iii-c)   computing, a second occurrence probability of each child node in a sixth set of nodes, given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity, said sixth set comprising child nodes of said parent node that do not lie along a directed path from said parent node to said at least one compulsory entity;

(iv-d)(iii-d)   computing a total sum of said second occurrence probabilities of said second set of child nodes;

(iv-e)(iii-e)   selecting as context nodes a seventh set of child nodes formed from said sixth set of child nodes in order of descending values of said second occurrence probability until the sum of said second occurrence probabilities of said seventh set of child nodes equals or exceeds half of said total sum,

wherein said first occurrence probability and said second occurrence probability are approximated using at least one occurrence frequency of a node in said representation, co-occurrence frequency between a pair of nodes in said representation, and joint-occurrence frequency between an n-tuple of nodes in said representation observed in at least one said previous view.

16.   (Previously Presented) A method according to claim 10 wherein said second set of nodes comprises one or more child nodes of at least one parent node in said representation not lying along said directed path from said root node to said at least one compulsory entity.

17.   (Currently Amended) A method according to claim 16 wherein, step (iv)[[(iii)]] comprises selecting said one or more child nodes from all child nodes of said at least one parent node, said selecting comprising the steps of:

(iv-a)(iii-a)   computing a first occurrence probability of said parent node appearing without any of its child nodes given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity;

(iv-b)(iii-b)   computing a second occurrence probability of each child node of said parent node given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity;

(iv-c)(iii-c)   computing a total sum of said first occurrence probability and said second occurrence probabilities of all child nodes of said parent node;

(iv-d)(iii-d) creating a fictitious node and assigning said fictitious node said first occurrence probability;

(iv-e)(iii-e) selecting as context nodes those nodes from a set of said fictitious node and all child nodes of said parent node arranged in order of descending values of said first occurrence probability or said second occurrence probabilities until the sum of said first occurrence probability or said second occurrence probability of selected nodes equals or exceeds half of said total sum; and

(iv-f)(iii-f) deselecting said fictitious node as a context node if said fictitious node is among said selected nodes,

wherein said first occurrence probability and said second occurrence probability are approximated using at least one occurrence frequency of a node in said representation, co-occurrence frequency between a pair of nodes in said representation, and joint-occurrence frequency between an n-tuple of nodes in said representation observed in at least one said previous view.

18. (Currently Amended) A method according to claim 16 wherein, step (iv)[[(iii)]] comprises selecting said one or more child nodes from all child nodes of said at least one parent node, said selecting comprising the steps of

(iv-a)(iii-a) computing a first occurrence probability of said parent node appearing without any of its child nodes given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity; and

if said first occurrence probability is less than or equal to 0.5:

(iv-b)(iii-b)   computing a second occurrence probability of each child node of said parent node given the occurrence of said parent node, ancestors of said parent node up to and including said root node and said at least one compulsory entity;

(iv-c)(iii-c)   computing a total sum of said second occurrence probabilities of all child nodes of said parent node, and

(iv-d)(iii-d)   selecting as context nodes, those nodes from the set of all child nodes of said parent node in order of descending values of said second occurrence probability until the sum of said second occurrence probability of selected nodes equals or exceeds half of said total sum,

wherein said first occurrence probability and said second occurrence probability are approximated using at least one occurrence frequency of a node in said representation, co-occurrence frequency between a pair of nodes in said representation, and joint-occurrence frequency between an n-tuple of nodes in said representation observed in at least one said previous view.

19.   (Previously Presented) A method according to claim 1 wherein said compulsory entity represents one of:

(i)   a location of one or more search keywords; and

(ii)   a user-selected entity.

20.   (Currently Amended) A method according to claim 1 [[3]] wherein said graphical representation comprises a tree representation and step (i) or (iii)[[(ii)]] includes detecting a user's selection of a sub-tree of said representation, and wherein, step

(iv)[[(iii)]] comprises selecting one or more child nodes of at least one parent node in said

user-selected sub-tree in a set of context nodes, said selecting comprising the steps of:

    (iv-a)(iii-a)   computing a first occurrence probability of said parent node

appearing without any of its child nodes given the occurrence of said parent node,

ancestors of said parent node up to and including the root node of said user-selected

sub-tree;

    (iv-b)(iii-b)   computing a second occurrence probability of each child

node of said parent node given the occurrence of said parent node, ancestors of said parent

node up to and including the root node of said user-selected sub-tree;

    (iv-c)(iii-c)   computing a total sum of said first occurrence probability

and said second occurrence probabilities of all child nodes of said parent node;

    (iv-d)(iii-d)   creating a fictitious node and assigning said fictitious node

said first occurrence probability;

    (iv-e)(iii-e)   selecting as context nodes those nodes from the set of said

fictitious node and all child nodes of said parent node in order of descending values of said

first occurrence probability or said second occurrence probability until the sum of said first

occurrence probability or said second occurrence probability of selected nodes equals or

exceeds half of said total sum; and

    (iv-f)(iii-f)   deselecting said fictitious node if said fictitious node is

among said selected nodes.

21. (Currently Amended) A method according to claim 1 [[3]] wherein said ~~graphical~~ representation comprises a tree representation and step (i) or (iii)[[(ii)]] includes detecting a user's selection of a sub-tree of said representation, and wherein, (iv)[[(iii)]] comprises selecting one or more child nodes of at least one parent node in said user-selected sub-tree in a set of context nodes, said selecting comprising the steps of:

(iv-a)~~(iii-a)~~ computing a first occurrence probability of said parent node appearing without any of its child nodes given the occurrence of said parent node, and ancestors of said parent node up to and including the root node of said user-selected sub-tree;

if said first occurrence probability is less than or equal to 0.5

(iv-b)~~(iii-b)~~ computing a second occurrence probability of each child node of said parent node given the occurrence of said parent node, and ancestors of said parent node up to and including the root node of said user-selected sub-tree;

(iv-c)~~(iii-c)~~ computing a total sum of said second occurrence probability of all child nodes of said parent node; and

(iv-d)~~(iii-d)~~ selecting as context nodes those nodes from the set of all child nodes of said parent node in order of descending values of said second occurrence probability until the sum of said second occurrence probability of selected nodes equals or exceeds half of said total sum.

22. (Currently Amended) A method of construction and presentation of data for a keyword searching operation in at least one data source involving at least one search keyword, said method comprising the steps of:

(i) constructing a <u>non-</u>graphical representation of said at least one data source and a plurality of previous views of said at least one data source;

(ii) identifying at least one compulsory entity in said <u>non-</u>graphical representation, wherein said compulsory entity is a node in said <u>non-</u>graphical representation representing a location of one or more said at least one search keyword;

(iii) constructing at least one data structure comprising said at least one compulsory entity and one or more context entities corresponding to at least one search keyword, wherein said context entities are obtained from said <u>non-</u>graphical representation using context data obtained from said plurality of previous views; and

(iv) presenting said at least one data structure as result of said keyword searching operation.

23. (Currently Amended) A method according to claim 22 wherein at least one said data source is hierarchical <u>and said data structure is hierarchical</u>.

24. (Currently Amended) A computer readable storage medium, having a computer-executable program recorded thereon, wherein the program is configured to make a computer execute a procedure to present data from at least one data source, said program comprising:

(i) code for ~~providing a representation of said at least one data source and a plurality of previous views~~ <u>constructing a representation</u> of said at least one data source;

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(ii) ~~code for identifying at least one compulsory entity in said~~ ~~representation;~~

(iii) ~~code for determining at least one context entity from said~~ ~~representation and context data obtained from said plurality of previous views; and~~

(iv) ~~code for presenting a data structure comprising said at least one~~ ~~compulsory entity and said at least one context entity~~

(ii)   code for obtaining at least one occurrence frequency of at least one data element from previous views of said at least one data source;

(iii)   code for identifying at least one compulsory entity in said representation;

(iv)   code for determining at least one context entity in said representation and in context data, wherein the determination is based on said at least one occurrence frequency;

(v)   code for presenting a data structure, wherein the data structure is a subset of the data from the data source, comprising a plurality of data elements, wherein each said data element corresponds to at least one of said at least one compulsory entity and said at least one context entity.

25.   (Previously Presented) A computer readable storage medium according to claim 24 wherein at least one said data source is hierarchical and said data structure is hierarchical.

26.   (Currently Amended) A computer readable storage medium, having a computer-executable program recorded thereon, wherein the program is configured to make a computer execute a procedure to construct and present data for a keyword searching operation in at least one data source involving at least one search keyword, said program comprising:

(i)   code for constructing a non-graphical representation of said at least one data source and a plurality of previous views of said at least one data source;

(ii)   code for identifying at least one compulsory entity in said non-graphical representation, wherein said compulsory entity is a node in said non-graphical representation representing a location of one or more said at least one search keyword;

(iii)   code for constructing at least one data structure comprising said at least one compulsory entity and one or more context entities, wherein said context entities are obtained from said non-graphical representation using context data obtained from said plurality of previous views; and

(iv)   code for presenting said at least one data structure as result of said keyword searching operation.

27.   (Previously Presented) A computer readable storage medium according to claim 26 wherein at least one said data source is hierarchical and at least one said data structure is hierarchical.

28.   (Currently Amended) Computer apparatus for constructing at least one data structure from at least one data source, said apparatus comprising

a [[first]] constructing module configured to construct a representation of said at least one data source ~~and a plurality of previous views of said at least one data source;~~

~~an identifying module configured to identify at least one compulsory entity in said representation;~~

~~a determining module configured to determine at least one context entity from said representation and context data obtained from said plurality of previous view; and~~

~~a second constructing module configured to construct said at least one data structure comprising said at least one compulsory entity and one or more context entities~~

an obtaining module configured to obtain at least one occurrence frequency of at least one data element from previous views of said at least one data source;

an identifying module configured to identify at least one compulsory entity in said representation;

a determining module configured to determine at least one context entity in said representation and in context data, wherein the determination is based on said at least one occurrence frequency;

a presenting module configured to presenting a data structure, wherein the data structure is a subset of the data from the data source, comprising a plurality of data elements, wherein each said data element corresponds to at least one of said at least one compulsory entity and said at least one context entity.

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29.   (Previously Presented) Computer apparatus according to claim 28 wherein at least one said data source is hierarchical and said at least one data structure is hierarchical.

30.   (Currently Amended) Computer apparatus for construction and presentation of data for a keyword searching operation in at least one data source involving at least one search keyword, said apparatus comprising:

a constructing module configured to construct a non-graphical representation of said at least one data source and a plurality of previous views of said at least one data source;

an identifying module configured to identify at least one compulsory entity in said non-graphical representation, wherein said compulsory entity is a node in said non-graphical representation representing a location of one or more said at least one search keyword;

a determining module configured to determine at least one context entity from said non-graphical representation and using context data obtained from said plurality of previous views;

a constructing module configured to construct at least one data structure comprising said at least one compulsory entity and said one or more context entities; and

a presenting module configured to present said at least one data structure comprising said at least one compulsory entity and said at least one context entity as result of said keyword searching operation.

31. to 34.   (Cancelled)

35.   (New) A method according to claim 4 wherein said schema representation is updated as new queries are logged.